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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/783,179

02/20/2004

John S. Wenstrand

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EXAMINER

BLOUNT, ERIC

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/783,179	Applicant(s) WENSTRAND, JOHN S.	
	Examiner Eric M. Blount	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02202004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Ferguson et al [Pub No. U.S. 2005/007552 A1].

Regarding **claim 1**, Ferguson et al disclose a system comprising an optical member (16) positioned between a viewer and an environment of interest to said viewer, wherein a visible light path from the viewer to objects in said environment has a substantially unitary magnification, at least a portion of said optical member being wavelength selective with respect to the reflectivity characteristics such that the optical member is generally transmissive with respect to visible light and is substantially reflective with respect to a particular detection wavelength (paragraphs 20-21). A detector is disclosed for receiving light of the detection wavelength reflected by the optical member from the viewer within said intended location. The detector having a detector output that is responsive to the received light (paragraph 27). A processor is connected to the detector for processing the detector output, wherein optical properties

along the visible light path from the viewer to the objects remain independent of the processing (paragraph 30).

As for **claim 2**, Ferguson et al show a dichroic mirror along at least a portion of the optical member (paragraph 25).

Regarding **claim 3**, the detector and processor are configured for detection of human eyes (Figures 3 and 4).

As for **claim 5**, a first light source emits a first light having a detection wavelength, the first light source being directed to reflect the first light from the optical member to an anticipated position of eyes of the viewer within the intended location. The detector and processor are dedicated to acquiring data that is specific to the eyes (paragraphs 19-26).

As for **claim 6**, the processor is configured to monitor perceived alertness of the viewer on the basis of the received data (paragraphs 19 and 29-31).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al as applied to the claims above and in further view of Witt et al [U.S. Patent No. 6,873,714 B2].

Regarding **claims 4 and 9**, Fergason et al do not disclose a processor that is configured to correlate detection of human eyes to stored identifications of a particular person. However in an analogous art, Witt et al disclose a system comprising an optical member positioned between a viewer and an environment of interest to the viewer wherein a processor is configured to correlate detection of human eyes to stored identifications of particular persons, enabling the system to specifically identify human eyes (column 4, lines 19-32 and column 5, lines 10-43). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Fergason et al to include the identification means taught by Witt et al because the combination would result in a system for detecting the alertness of a specific individual. This might be advantageous in embodiments where several users share equipment and may need to be monitored at any given time when using any given equipment.

As for **claim 10**, the windshield taught by Witt reasonably meets the limitation of a glass divider.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason et al as applied to the claims above and further in view of Breed et al [U.S. Patent No. 6,856,873 B2].

Regarding **claim 7**, Fergason et al do not disclose that an optical member is a windshield of a motor vehicle. In an analogous art for monitoring the eye movement, Breed et al disclose an optical member positioned between an intended location of a

viewer and an environment of interest to the viewer (Figures 1B). The optical member is a windshield of a motor vehicle (column 28). Breed et al show that a reflection is made off of the vehicle windshield to the eyes of a driver. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to use the concept introduced by Ferguson et al in a vehicle so that the alertness of any driver (i.e. drivers who do not require glasses) could be monitored. Ferguson et al disclose that a light source emits a light that is reflected off of the optical member onto the eyes of a user. This type of arrangement would work similarly in a vehicle system as taught by Breed et al.

As for **claim 8**, both Ferguson et al and Breed et al disclose an optical member with a coating, which provides wavelength selectivity. Ferguson et al disclose that only a portion of the optical member defines a dichroic mirror (Figure 1 and paragraph 21, lines 4-9). Both inventions disclose a light source that is positioned outside the view with respect to the vision of the user (Ferguson, Figure 1 and Breed, Figure 1B).

6. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al in view Breed et al as applied to claims 7 and 8 above, and in further view of Grace et al [Pub No. U.S. 2004/0070509 A1].

As for **claims 11 and 12**, neither, Ferguson et al nor Breed et al disclose two light sources. In an analogous art for monitoring the eyes of a subject, Grace et al disclose a first and second light source for emitting first and second signals toward a subject (Figure 1). A detector receives back-reflected light from the subject and the

subject's eyes are detectable using the difference between the back-reflected first and second lights (paragraphs 11-15 and 35).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the eye monitoring concept of Ferguson et al to be included in a vehicle as taught by Breed et al and Grace et al. The modification would result in a system that was more equipped for tracking the eyes of a subject in a motor vehicle.

As for **claim 13**, each of the inventions discloses that infrared light sources are used.

As for **claims 14-17**, the windshield as discussed by Breed et al reasonably appears to meet the limitation of a divider between a first and second person. The detector and illuminators of Breed can be formed in the dash (Figure 1B). Ferguson et al teach that the dichroic mirror may be a region of the windshield (see rejection of claim 8 above). Each of the inventions monitor the alertness of a subject.

7. Claims 18-21, 25, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al in view Ferguson et al. Both references will be relied upon for teachings as discussed above.

In regard to **claims 18 and 27**, Breed et al disclose a system for a motor vehicle comprising a windshield with at least a portion having a coating, which defines a dichroic mirror that is generally transparent to visible light and substantially reflective with respect to a driver detection wavelength range (column 27, line 35 – column 28,

line 23). A detector and processor are provided for determining information regarding a driver of the motor vehicle on the basis of received light (column 28, line 30 – column 29, line 35). Breed et al do not specifically show that a detector and processor receive reflected light.

In an analogous art for monitoring the awareness of an individual, Ferguson et al disclose a system comprising an optical member with at least a portion having a coating defining a dichroic mirror that is generally transmissive to visible light and substantially reflective with respect to a detection wavelength range (paragraphs 21 and 25). A detector is taught for receiving reflected light within the detection wavelength range following a reflection from the optical member. A processor connected to the detector determines information regarding an individual on the basis of the reflected light received at the detector (paragraphs 25-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the system taught by Breed et al to include the concept of monitoring the awareness of an individual through light reflected from the individual's eyes as taught by Ferguson et al because the modification would produce an awareness monitoring system for a motor vehicle which would accurately predict the awareness of a driver. This system would take advantage of the reflectivity of human eyes to monitor awareness and provide an alarm, without obstructing the line-of-sight of the driver.

As for **claims 19-20 and 28-29**, the detector and illuminating components taught by Breed et al can be positioned in the dashboard of the motor vehicle (Figure 1B).

As for **claim 21**, it can be seen with the teachings of claim 18, that a first light is reflected off of the dichroic mirror so that the light is reflected toward the eyes and face of a subject.

Regarding **claims 25 and 31**, both inventions teach that the processor is configured to monitor perceived conditions of drowsiness.

As for **claim 30**, each invention teaches an infrared light source.

8. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al in view of Fergason et al as applied to the claims above and in further view of Grace et al.

As for **claim 22**, neither, Breed et al nor Fergason et al disclose two light sources. In an analogous art for monitoring the eyes of a subject, Grace et al disclose a first and second light source for emitting first and second signals toward a subject (Figure 1). A detector receives back-reflected light from the subject and the subject's eyes are detectable using the difference between the back-reflected first and second lights (paragraphs 11-15 and 35).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the eye monitoring concepts of Breed et al and Fergason et al to included a second light source as taught by Grace et al. The modification would result in a system that was more equipped for tracking the eyes of a subject in a motor vehicle. Using two light sources to identify the eyes of a subject would allow the detector to accurately determine a user's eyes while accounting for

other objects or light, which might obstruct the reflected light, received back at the detector.

As for **claim 23**, Breed shows that the light sources may be embedded within the dashboard of the motor vehicle.

As for **claim 24**, each of the inventions discloses that infrared light sources are used.

9. Claims 26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al in view of Fergason et al as applied to the claims above and in further view of Witt et al.

Regarding **claims 26 and 32**, neither Breed et al nor Fergason et al disclose a processor that is configured to correlate detection of human eyes to stored identifications of a particular person. However in an analogous art, Witt et al disclose a system comprising an optical member positioned between a viewer and an environment of interest to the viewer wherein a processor is configured to correlate detection of human eyes to stored identifications of particular persons, enabling the system to specifically identify human eyes (column 4, lines 19-32 and column 5, lines 10-43). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the inventions of Breed et al and Fergason et al to include the identification means taught by Witt et al because the combination would result in a system for detecting the alertness of a particular individual. This might be

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advantageous in embodiments where several users share equipment and may need to be monitored at any particular time when using any given equipment.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Blount whose telephone number is (571) 272-2973. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric M. Blount
Examiner
Art Unit 2636


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